

**IN THE CLAIMS:**

Please amend the claims as follows.

1. (Canceled)

2. (Currently Amended) ~~A method according to claim 1, further~~ A run length limited code generation method, comprising:

generating the a plurality of different code sequences, which have recording densities that gradually become higher, and which are to be recorded on a plurality of successive subfields on a test data field of an information storage medium; and

generating the plurality of different code sequences on the basis of a plurality of different run length limitations which gradually decrease a minimum run length of identical codes.

3. (Currently Amended) ~~A method according to claim 1, A run length limited code generation method, comprising:~~

~~wherein the run length limited code generation method is a method of~~ generating a plurality of different code sequences, which have recording densities that gradually become higher, and which are to be recorded on a plurality of successive subfields on a test data field of an information storage medium, including generating a (d, k) run length limited code sequence which meets a condition that a minimum run length of identical codes is (d+1), and a maximum run length of identical codes is (k+1), and (k+1);

~~the method further comprises:~~

~~under the condition  $d_1 > d_2 > \dots > d_L$ ,~~

generating a (d1, k1) run length limited code sequence to be recorded on a first subfield of the information storage medium;

generating a (d2, k2) run length limited code sequence to be recorded on a second subfield of the information storage medium; and

generating a (dL, kL) run length limited code sequence to be recorded on an L-th subfield of the information storage ~~medium~~ medium;

wherein  $d1 > d2 > \dots > dL$ .

4. (Currently Amended) ~~A method according to claim 1,~~ A run length limited code generation method, comprising:

generating a plurality of different code sequences, which have recording densities that gradually become higher, and which are to be recorded on a plurality of successive subfields on a test data field of an information storage medium; and

~~further comprising:~~

under the condition  $P1 \leq P2 \leq \dots \leq PL$  and  $P1 < PL$ , generating a run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency P1 ~~of occurrence~~, a run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency P2 ~~of occurrence~~, and a run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency PL ~~of occurrence~~.

5. (Canceled)

6. (Currently Amended) ~~An apparatus according to claim 5,~~ A run length limited code recording/reproduction apparatus for generating, recording, and reproducing a run length limited code sequence, comprising:

a generation unit for generating a plurality of different code sequences which have recording densities that gradually become higher; and

a recording unit for recording the plurality of different code sequences generated by the generation unit on a plurality of successive subfields in a test data field of an information storage medium;

wherein the generation unit generates the plurality of different code sequences on the basis of a plurality of different run length limitations which gradually decrease a minimum run length of identical codes.

7. (Currently Amended) ~~An apparatus according to claim 5;~~ A run length limited code recording/reproduction apparatus for generating, recording, and reproducing a run length limited code sequence, comprising:

a generation unit for generating a plurality of different code sequences which have recording densities that gradually become higher; and

a recording unit for recording the plurality of different code sequences generated by the generation unit on a plurality of successive subfields in a test data field of an information storage medium;

wherein ~~the run length limited code generation apparatus is an apparatus for generating, recording, and reproducing~~ a (d, k) run length limited code sequence ~~which~~ meets a condition that a minimum run length of identical codes is (d+1); and a maximum run length of identical codes is (k+1), and

wherein, under the condition  $d_1 > d_2 > \dots > d_L$ , the generation unit generates a (d<sub>1</sub>, k<sub>1</sub>) run length limited code sequence, a (d<sub>2</sub>, k<sub>2</sub>) run length limited code sequence, and a (d<sub>L</sub>, k<sub>L</sub>) run length limited code sequence, and the recording unit records the (d<sub>1</sub>, k<sub>1</sub>) run length limited code sequence on a first subfield of the information storage medium, the (d<sub>2</sub>, k<sub>2</sub>) run

length limited code sequence on a second subfield of the information storage medium, and the (dL, kL) run length limited code sequence on an L-th subfield of the information storage medium.

8. (Currently Amended) ~~An apparatus according to claim 5, A run length limited code recording/reproduction apparatus for generating, recording, and reproducing a run length limited code sequence, comprising:~~

a generation unit for generating a plurality of different code sequences which have recording densities that gradually become higher; and

a recording unit for recording the plurality of different code sequences generated by the generation unit on a plurality of successive subfields in a test data field of an information storage medium;

~~wherein~~ wherein, under the condition  $P1 \leq P2 \leq \dots \leq PL$  and  $P1 < PL$ , the generation unit generates a first run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency  $P1$  ~~of occurrence~~, a second run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency  $P2$  ~~of occurrence~~, and a third run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency  $PL$  ~~of occurrence~~, and the recording unit records the first, second, and third run length limited code sequences in turn on a plurality of successive subfields in a test data field of an information storage medium.

9. (Currently Amended) An apparatus according to claim 5 6, further comprising:

a reproduction unit for reproducing the plurality of subfields in turn; and

an adjustment unit for adjusting reproduction performance of the reproduction unit on the basis of reproduction results of the plurality of subfields.

10. (Canceled)

11. (Currently Amended) ~~A method according to claim 10, further~~ A run length limited code recording/reproduction method for generating, recording, and reproducing a run length limited code sequence, comprising:

~~generating the plurality of different code sequences~~ a plurality of different code sequences, which have recording densities that gradually become higher, on the basis of a plurality of different run length limitations which gradually decrease a minimum run length of identical codes; and

recording the plurality of generated different code sequences on a plurality of successive subfields in a test data field of an information storage medium.

12. (Currently Amended) ~~A method according to claim 10, A run length limited code recording/reproduction method for generating, recording, and reproducing a run length limited code sequence, comprising:~~

generating a plurality of different code sequences which have recording densities that gradually become higher; and

recording the plurality of generated different code sequences on a plurality of successive subfields in a test data field of an information storage medium;

~~wherein the run length limited code generation method is a method for generating, recording, and reproducing a (d, k) run length limited code sequence which meets a condition~~

that a minimum run length of identical codes is  $(d+1)$ ; and a maximum run length of identical codes is  $(k+1)$ ; and  $(k+1)$ ;

~~the method further comprises:~~

~~under the condition  $d_1 > d_2 > \dots > d_L$ ,~~

generating a  $(d_1, k_1)$  run length limited code sequence, a  $(d_2, k_2)$  run length limited code sequence, and a  $(d_L, k_L)$  run length limited code sequence; and

recording the  $(d_1, k_1)$  run length limited code sequence on a first subfield of the information storage medium, the  $(d_2, k_2)$  run length limited code sequence on a second subfield of the information storage medium, and the  $(d_L, k_L)$  run length limited code sequence on an L-th subfield of the information storage medium;

wherein  $d_1 > d_2 > \dots > d_L$ .

13. (Currently Amended) ~~A method according to claim 10,~~ A run length limited code recording/reproduction method for generating, recording, and reproducing a run length limited code sequence, comprising:

generating a plurality of different code sequences which have recording densities that gradually become higher; and

recording the plurality of generated different code sequences on a plurality of successive subfields in a test data field of an information storage medium;

~~further comprising:~~

~~under the condition  $P_1 \leq P_2 \leq \dots \leq P_L$  and  $P_1 < P_L$ ,~~

generating a run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency  $P_1$  ~~of occurrence~~, a run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency  $P_2$  ~~of occurrence~~,

and a run length limited code sequence that includes a minimum run length pattern with a an occurrence frequency PL of occurrence; and

recording the first, second, and third run length limited code sequences in turn on a plurality of successive subfields in a test data field of an information storage medium;

wherein  $P1 \leq P2 \leq \dots \leq PL$  and  $P1 < PL$ .

14. (Currently Amended) A method according to claim 10 ~~11~~, further comprising:  
reproducing the plurality of subfields; and  
adjusting reproduction performance on the basis of reproduction results of the plurality of subfields.

15. (New) An apparatus according to claim 8, further comprising:  
a reproduction unit for reproducing the plurality of subfields in turn; and  
an adjustment unit for adjusting reproduction performance of the reproduction unit on the basis of reproduction results of the plurality of subfields.

16. (New) A method according to claim 13, further comprising:  
reproducing the plurality of subfields; and  
adjusting reproduction performance on the basis of reproduction results of the plurality of subfields.